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SOIL GAS SURVEY

BURBANK-GLENDALE-PASADENA AIRPORT

BURBANK, CALIFORNIA

TARGET ENVIRONMENTAL SERVICES, INC.

TARGET ENVIRONMENTAL SERVICES, INC.

November 15, 1991

NOV 15 1991

Mr. Ronnie Almero
Al Burke Engineers
451 W. Lambert Road
Suite 211
Brea, CA 92621

Dear Mr. Almero:

Enclosed please find three (3) replacement copies of the report on the Soil Gas Survey performed by **TARGET** at the Burbank-Glendale-Pasadena Airport site in Burbank, California. The changes you requested were made on title page, i, 1 and all the maps.

Sincerely,

TARGET ENVIRONMENTAL SERVICES, INC.

Kenneth B. Ranlet
Vice President

AC 665

9180 RUMSEY ROAD, COLUMBIA, MARYLAND 21045 (301) 992-6622 Fax: (301) 992-0347

SOIL GAS SURVEY

BURBANK-GLENDALE-PASADENA AIRPORT

BURBANK, CALIFORNIA

PREPARED FOR

A.L. BURKE ENGINEERS, INC.

451 WEST LAMBERT ROAD, SUITE 211

BREA, CALIFORNIA 92621

PREPARED BY

TARGET ENVIRONMENTAL SERVICES, INC.

9180 RUMSEY ROAD

COLUMBIA, MARYLAND 21045

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OCTOBER 1991

EXECUTIVE SUMMARY

On September 11 and 12, 1991, **TARGET** Environmental Services, Inc. (**TARGET**) conducted a soil gas survey at Burbank-Glendale-Pasadena Airport, Burbank, California in an area south of the Lockheed Corporation Area C-1. Samples were collected at 6 feet in all sampling locations and at multiple depths in nine locations and were analyzed by GC/FID and GC/ECD for petroleum and halogenated hydrocarbons, respectively.

Elevated levels of 1,1,1-TCA, PCE and t-1,2-DCE and lower levels of TCE, MTBE/pentane, acetone, benzene, toluene, and the xylenes were observed within the survey area. Map patterns of the halogenated hydrocarbons and MTBE/pentane suggest that the contaminants originated in or near the wash down areas. The low levels of petroleum hydrocarbons present in scattered locations around the survey are probably related to vehicular use. While the concentrations of halogenated hydrocarbons were typically of similar magnitude at all depths, the occurrences of non-halogenated hydrocarbons, with the exception of MTBE/pentane, were limited to the shallower samples.

Introduction

A. L. Burke Engineers, Inc. contracted **TARGET** Environmental Services, Inc. (**TARGET**) to perform a soil gas survey in an area south of the Lockheed Corporation Area C-1 at the Burbank-Glendale-Pasadena Airport in Burbank, California. The purpose of the soil gas survey was to determine the presence and extent of volatile hydrocarbons in the subsurface. Ground water and soils information were not reported. The field phase of the soil gas survey was conducted September 11 and 12, 1991.

Detectability

The soil gas survey data presented in this report are the result of precise sampling and measurement of contaminant concentrations in the vadose zone. Analyte detection at a particular location is representative of vapor, dissolved, and/or liquid phase contamination at that location. The presence of detectable levels of target analytes in the vadose zone is dependent upon several factors, including the presence of vapor-phase hydrocarbons or dissolved or liquid concentrations adequate to facilitate volatilization into the unsaturated zone.

Terminology

In order to prevent misunderstanding of certain terms used in this report, the following clarifications are offered:

The term "feature" is used in reference to a discernible pattern in the contoured data. It denotes a contour form rather than a definite or separate chemical occurrence.

The term "occurrence" is used to indicate an area where chemical compounds are present in sufficient concentrations to be detected by the analysis of soil vapors. The term is not indicative of any specific mode of occurrence (vapor, dissolved, etc.), and does not necessarily indicate or suggest the presence of "free product" or "phase-separated hydrocarbons."

The term "anomaly" refers to an area where hydrocarbons were measured in excess of what would normally be considered "natural" or "background" levels.

The term "analyte" refers to any of the hydrocarbons standardized for quantification in the chromatographic analysis.

The term "vadose zone" represents the unsaturated zone between the ground water table and the ground surface.

The term "indicates" is used when evidence dictates a unique conclusion. The term "suggests" is used when several explanations of certain evidence are possible, but one in particular seems more likely. As a result, "indicates" carries a higher degree of confidence in a conclusion than does "suggests."

The terms "elevated" and "significant" are used to describe concentrations of analytes which indicate the existence of a potential problem in the soil or ground water.

Field Procedures

Soil gas samples were collected at a total of 49 locations, as shown in Figure 1. Samples were collected at multiple depths at most of the locations. The first one or two digits in the sample numbers represent the sampling depth, i.e., "6", "10", "15" and "20". The last two or three digits represent the sample location number.

To collect the samples, a van-mounted hydraulic probe was used to advance connected 3' sections of 1" diameter threaded steel casing down to the sampling depth. The entire sampling system was purged with ambient air drawn through an organic vapor filter cartridge. A teflon line was inserted into the casing to the bottom of the hole, and the bottom-hole line perforations were isolated from the up-hole annulus by an inflatable packer. A sample of in-situ soil gas was then withdrawn through the probe and used to purge atmospheric air from the sampling system. A second sample of soil gas was withdrawn through the probe and encapsulated in a pre-evacuated glass vial at two atmospheres of pressure (15 psig). The self-sealing vial was detached from the sampling system, packaged, labeled, and taken to **TARGET**'s on-site mobile laboratory for analysis. When equipment malfunctioned, the remaining samples were shipped to **TARGET**'s corporate headquarters and analyzed in the home laboratory.

At sampling locations where samples were collected from more than one depth, the shallow sample was collected first, and then the probe was further advanced to collect deeper samples in the same manner as above.

Prior to the day's field activities all sampling equipment and probes were decontaminated by washing with soapy water and rinsing thoroughly. Internal surfaces were flushed dry using pre-purified nitrogen or filtered ambient air, and external surfaces were wiped clean using clean paper towels.

Field control samples were collected at the beginning and end of each day's field activities and after every twentieth soil gas sample. These QA/QC samples were obtained by inserting the probe tip into a tube flushed by a 20 psi flow of pre-purified nitrogen and collecting in the same manner as described above.

Three sample locations (Stations 1007, 1516 and 1521) were sampled a second time after the initial sample vials were broken during analysis.

Laboratory Procedures

The samples collected during the field phase of the survey were subjected to both of the following analyses. One analysis was conducted according to EPA Method 601 (modified) on a gas chromatograph equipped with an electron capture detector (ECD), but using direct injection instead of purge and trap. Specific analytes standardized for this analysis were:

1,1-dichloroethene (1,1-DCE)
methylene chloride (MC)
trans-1,2-dichloroethene (t-1,2-DCE)
1,1-dichloroethane (1,1-DCA)
cis-1,2-dichloroethene (c-1,2-DCE)
chloroform (CF)
1,1,1-trichloroethane (1,1,1-TCA)
carbon tetrachloride (CT)
trichloroethene (TCE)
1,1,2-trichloroethane (1,1,2-TCA)
tetrachloroethene (PCE)

The halogenated hydrocarbons in this suite were chosen because of their common usage in industrial solvents, and/or their degradational relationship to commonly used compounds.

The second analysis was conducted according to EPA Method 602 (modified) on a gas chromatograph equipped with a flame ionization detector (FID), but using direct injection instead of purge and trap. The analytes selected for standardization in this analysis were:

acetone
methyl tertiary butyl ether (MTBE)
methyl ethyl ketone (MEK)
benzene
toluene
chlorobenzene
ethylbenzene
meta- and para- xylene
ortho-xylene

These compounds were chosen because of their utility in evaluating the presence of fuel products, or petroleum-based solvents.

The Total FID Volatiles values were generated by summing the areas of all chromatogram peaks and calculated using the instrument response factor for toluene. Injection peaks, which also contain the light hydrocarbon methane, were excluded to avoid the skewing of the Total FID Volatiles (Totals) values due to injection disturbances and biogenic methane. For samples with low hydrocarbon concentrations, the calculated Total FID Volatiles concentration is occasionally lower than the sum of the individual analytes. This is because the response factor used for the Total FID Volatiles calculation is a constant, whereas the individual analyte response factors vary with concentration. It is important to understand that the Total FID Volatiles levels reported are relative, not absolute, values.

The analytical equipment was calibrated using an instrument-response curve and injection of known concentrations of the above standards. Retention times of the standards were used to identify the peaks in the chromatograms of the field samples and their response factors were used to calculate the analyte concentrations. The tabulated results of the laboratory analyses of the soil gas samples are reported in micrograms per liter ($\mu g/l$) in Tables 1 and 2. The first one or two digits in the sample numbers represent the sampling depth; i.e., "6", "10", "15" and "20". The last two or three digits represent the sample location number. Although "micrograms per liter" is equivalent to "parts per billion (v/v)" in water analyses, they are not equivalent in gas analyses, due to the difference in the mass of equal volumes of water and gas matrices. Because pentane and MTBE co-elute, they are listed together in the table. The xylenes concentrations reported in Table 1 are the sum of the m- and p-xylene and o-xylene concentrations for each sample.

For QA/QC purposes, a duplicate analysis was performed on every tenth field sample. Laboratory blanks of nitrogen gas (99.999%) were also analyzed after every tenth field sample.

A total of five samples vials (Samples 612, 1007, 1516, 1521, and 2022) were broken during analysis. Samples were recollected at three of the locations, as mentioned in the Field Procedures section; however, analytical data are not available for Samples 612 and 2022.

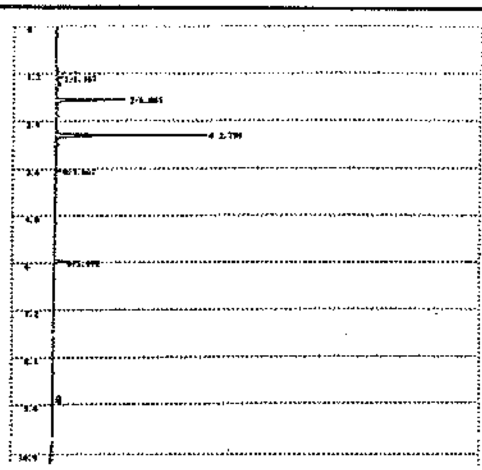
Discussion and Interpretation of Results

In order to provide graphic presentation of the results, individual data sets in Tables 1 and 2 have been mapped to produce Figures 2 through 8. Map sample points with no data shown indicate that the analyte concentrations in the sample were below the detection limit. Analytical data for all sampling depths are shown on the maps; however, contours respect the data obtained from the 6' sampling depth.

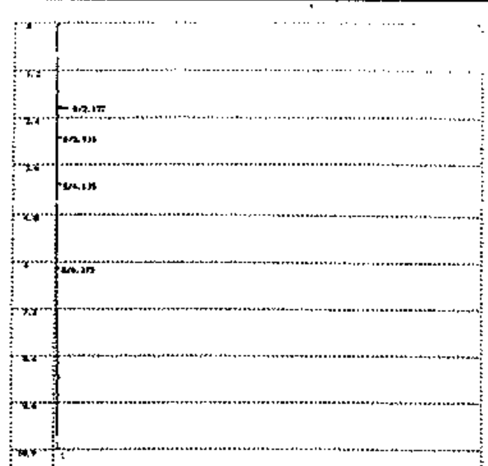
GC/ECD analysis revealed that 1,1,1-trichloroethane (1,1,1-TCA, Figure 2) was the most prominent halogenated hydrocarbon on the site. Concentrations of 1,1,1-TCA were highest beneath (Station 620) and south of the wash down areas (location 5). Concentrations in the soil gas were elevated at all depths (Stations 605, 1005, 1505, and 2005). Lower levels were present at all other sampling locations and at all depths. The tetrachloroethene (PCE) and trichloroethene (TCE) map patterns resemble the 1,1,1-TCA features and are not mapped separately. PCE and TCE were observed in all samples, with the highest concentrations observed in samples collected south of and beneath the wash down areas. The trans-1,2-dichloroethene occurrence (t-1,2-DCE, Figure 3) was limited to the area in and around the wash down area and to several isolated samples to the west and south.

GC/FID analysis indicated that Total FID Volatiles (Figure 4) were highest in and beneath the wash down areas. Low levels occurred at most of the remaining sampling locations. MTBE/pentane (Figure 5) were highest in and around the wash down areas. Xylenes (Figure 6) were present in low levels in several samples around the wash down areas and in some samples across the service road. Low levels of acetone (Figure 7) occurred in several samples in and near the service road. A low level of benzene (Figure 8) was present at one sampling location (Station 607) near the service road.

The FID chromatogram signatures of samples with elevated levels of volatile hydrocarbons show isolated peaks typical of halogenated hydrocarbons, as exemplified by Chromatogram 1, Sample 2005. Peaks indicative of low levels of petroleum hydrocarbons are evident in the chromatograms of a number of samples, as exemplified by Chromatogram 2, Sample 617.



CHROMATOGRAM 1. GC/FID SIGNATURE OF SAMPLE 2005



CHROMATOGRAM 2. GC/FID SIGNATURE OF SAMPLE 617

Elevated levels of 1,1,1-TCA, PCE and t-1,2-DCE and lower levels of TCE, MTBE/pentane, acetone, benzene, toluene, the xylenes were observed within the survey area. Map patterns of the halogenated hydrocarbons and MTBE/pentane suggest that the contaminants originated in or near the wash down areas. The low levels of petroleum hydrocarbons present in scattered locations around the survey are probably related to vehicular use. While the concentrations of halogenated hydrocarbons were typically of similar magnitude at all depths, the occurrences of non-halogenated hydrocarbons, with the exception of MTBE/pentane, were limited to the shallower samples, i.e., samples collected at 6' and 10'.

TABLE 1

ANALYTE CONCENTRATIONS VIA GC/FID (ug/l)

SAMPLE	ACETONE	PENTANE/ MTBE[1]	MEK	BENZENE	TOLUENE	CHLORO-BENZENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES[2]
601	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
602	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.6
603	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.6
604	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.3
605	<1.0	19	<1.0	<1.0	1.9	<1.0	<1.0	3.1	50
1005	<1.0	23	<1.0	<1.0	1.2	<1.0	<1.0	2.6	59
1505	<1.0	18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	40
2005	<1.0	12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	27
606	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1006	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	3.2
1506	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9
2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1
607	1.9	<1.0	<1.0	1.0	1.9	<1.0	<1.0	3.0	6.6
1007	1.6	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	2.8	5.9
1507	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.3
608	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
609	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
610	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	1.2	4.8
611	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
1012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.2
1512	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1
2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.6
613	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5
614	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.4
1014	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.6
1514	<1.0	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.9
2014	<1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.8
615	1.2	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	2.8
1015	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4
1515	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6
2015	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.2
616	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	2.6	3.4
1016	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0
1516	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6
2016	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6
617	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5
618	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6

MEK = Methyl ethyl ketone

[1] CONCENTRATIONS BASED ON RESPONSE FACTOR OF MTBE

[2] CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE

TABLE 1 (cont)

ANALYTE CONCENTRATIONS VIA GC/FID (ug/l)

SAMPLE	ACETONE	PENTANE/ MTBE[1]	MEK	BENZENE	TOLUENE	CHLORO-BENZENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES[2]
619	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.9
620	<1.0	17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	26
621	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.0
1021	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	2.5	3.8
1521	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2021	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.6
622	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.0
1022	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	2.3
1522	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
FIELD CONTROL SAMPLES									
101	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
102	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
103	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
104	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
105	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
106	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
LABORATORY DUPLICATE ANALYSES									
1005	<1.0	23	<1.0	<1.0	1.2	<1.0	<1.0	2.6	59
1005R	<1.0	23	<1.0	<1.0	1.1	<1.0	<1.0	2.6	58
2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1
2006R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.7
613	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5
613R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1
1021	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	2.5	3.8
1021R	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	2.3
LABORATORY BLANKS									
1005B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2006B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
613B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1021B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

MEK = Methyl ethyl ketone

[1] CONCENTRATIONS BASED ON RESPONSE FACTOR OF MTBE

[2] CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE

TABLE 2

ANALYTE CONCENTRATIONS VIA GC/ECD (ug/l)

SAMPLE	11DCE	MC	t12DCE	11DCA	c12DCE	CF	111TCA	CT	TCE	112TCA	PCE
601	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	0.93	<0.05	0.14	<0.10	0.92
602	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	4.0	<0.05	0.35	<0.10	2.0
603	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	10	<0.05	0.30	<0.10	3.3
604	<1.0	<1.0	2.4	<1.0	<1.0	<0.10	11	<0.05	0.15	<0.10	3.0
605	<1.0	<1.0	20	<1.0	<1.0	<0.10	82	<0.05	0.77	<0.10	14
1005	<1.0	<1.0	38	<1.0	<1.0	<0.10	135	<0.05	0.46	<0.10	16
1505	<1.0	<1.0	30	<1.0	<1.0	<0.10	109	<0.05	0.38	<0.10	13
2005	<1.0	<1.0	23	<1.0	<1.0	<0.10	75	<0.05	0.32	<0.10	9.7
606	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	3.8	<0.05	0.11	<0.10	1.5
1006	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	2.0	<0.05	<0.10	<0.10	0.71
1506	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	5.0	<0.05	<0.10	<0.10	1.5
2006	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	6.8	<0.05	0.14	<0.10	1.8
607	<1.0	<1.0	1.9	<1.0	<1.0	<0.10	1.2	<0.05	0.59	<0.10	2.0
1007	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	0.13	<0.05	0.16	<0.10	0.90
1507	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	3.8	<0.05	<0.10	<0.10	0.98
2007	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	4.7	<0.05	0.14	<0.10	1.1
608	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	1.3	<0.05	0.22	<0.10	1.3
609	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	0.60	<0.05	0.18	<0.10	1.2
610	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	0.86	<0.05	0.42	<0.10	1.8
611	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	0.94	<0.05	0.23	<0.10	1.3
1012	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	6.9	<0.05	0.11	<0.10	1.7
1512	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	5.6	<0.05	<0.10	<0.10	1.2
2012	<1.0	<1.0	1.5	<1.0	<1.0	<0.10	11	<0.05	<0.10	<0.10	1.6
613	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	3.9	<0.05	0.16	<0.10	1.9
614	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	14	<0.05	0.20	<0.10	2.6
1014	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	7.9	<0.05	0.12	<0.10	2.1
1514	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	15	<0.05	0.13	<0.10	2.5
2014	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	14	<0.05	0.13	<0.10	2.3
615	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	3.8	<0.05	0.14	<0.10	1.3
1015	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	3.5	<0.05	<0.10	<0.10	0.87
1515	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	5.5	<0.05	<0.10	<0.10	1.3
2015	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	5.4	<0.05	<0.10	<0.10	1.2
616	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	1.3	<0.05	0.30	<0.10	1.3
1016	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	1.8	<0.05	0.14	<0.10	0.96
1516	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.05	<0.10	<0.10	<0.05
2016	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	3.4	<0.05	0.12	<0.10	0.99
617	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	3.8	<0.05	0.13	<0.10	1.5

11DCE	=	1,1-dichloroethene	MC	=	methylene chloride
t12DCE	=	trans-1,2-dichloroethene	11DCA	=	1,1-dichloroethane
c12DCE	=	cis-1,2-dichloroethene	CF	=	chloroform
111TCA	=	1,1,1-trichloroethane	CT	=	carbon tetrachloride
TCE	=	trichloroethene	112TCA	=	1,1,2-trichloroethane
PCE	=	tetrachloroethene			

TABLE 2 (cont)

ANALYTE CONCENTRATIONS VIA GC/ECD (ug/l)

SAMPLE	11DCE	MC	t12DCE	11DCA	c12DCE	CF	111TCA	CT	TCE	112TCA	PCE
618	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	2.8	<0.05	0.19	<0.10	1.5
619	<1.0	<1.0	1.2	<1.0	<1.0	<0.10	15	<0.05	0.27	<0.10	5.3
620	<1.0	<1.0	22	<1.0	<1.0	<0.10	113	<0.05	0.49	<0.10	9.1
621	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	7.5	<0.05	0.22	<0.10	2.9
1021	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	6.1	<0.05	0.28	<0.10	2.4
1521	<1.0	<1.0	1.1	<1.0	<1.0	<0.10	1.9	<0.05	0.10	<0.10	0.89
2021	<1.0	<1.0	2.4	<1.0	<1.0	<0.10	12	<0.05	0.13	<0.10	2.2
622	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	2.7	<0.05	0.57	<0.10	2.7
1022	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	4.5	<0.05	0.12	<0.10	1.5
1522	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	3.9	<0.05	0.17	<0.10	1.4
FIELD CONTROL SAMPLES											
101	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.05	<0.10	<0.10	0.29
102	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.05	<0.10	<0.10	0.11
103	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.05	<0.10	<0.10	0.06
104	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.05	<0.10	<0.10	0.23
105	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.05	<0.10	<0.10	0.06
106	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.05	<0.10	<0.10	<0.05
LABORATORY DUPLICATE ANALYSES											
1005	<1.0	<1.0	38	<1.0	<1.0	<0.10	22	<0.05	0.46	<0.10	8.8
1005R	<1.0	<1.0	35	<1.0	<1.0	<0.10	22	<0.05	0.44	<0.10	8.8
2006	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	6.8	<0.05	0.14	<0.10	1.8
2006R	<1.0	<1.0	2.1	<1.0	<1.0	<0.10	6.9	<0.05	0.14	<0.10	1.7
613	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	3.9	<0.05	0.16	<0.10	1.9
613R	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	4.0	<0.05	0.11	<0.10	1.4
1021	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	6.1	<0.05	0.28	<0.10	2.4
1021R	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	6.0	<0.05	0.28	<0.10	2.4
LABORATORY BLANKS											
613B	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.05	<0.10	<0.10	<0.05
1005B	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.05	<0.10	<0.10	<0.05
1021B	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.05	<0.10	<0.10	<0.05
2006B	<1.0	<1.0	<1.0	<1.0	<1.0	<0.10	<0.10	<0.05	<0.10	<0.10	<0.05

11DCE	=	1,1-dichloroethene	MC	=	methylene chloride
t12DCE	=	trans-1,2-dichloroethene	11DCA	=	1,1-dichloroethane
c12DCE	=	cis-1,2-dichloroethene	CF	=	chloroform
111TCA	=	1,1,1-trichloroethane	CT	=	carbon tetrachloride
TCE	=	trichloroethene	112TCA	=	1,1,2-trichloroethane
PCE	=	tetrachloroethene			

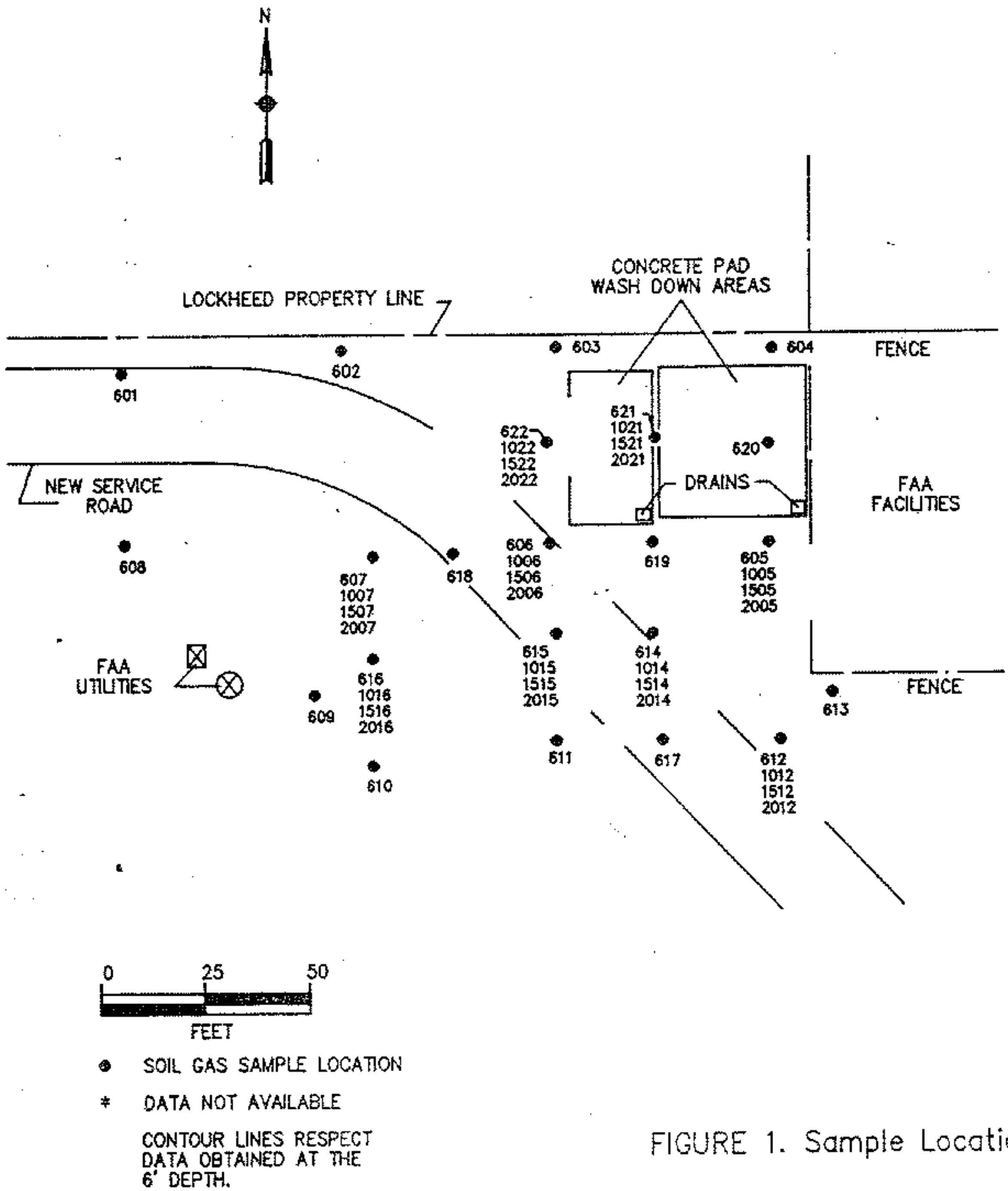
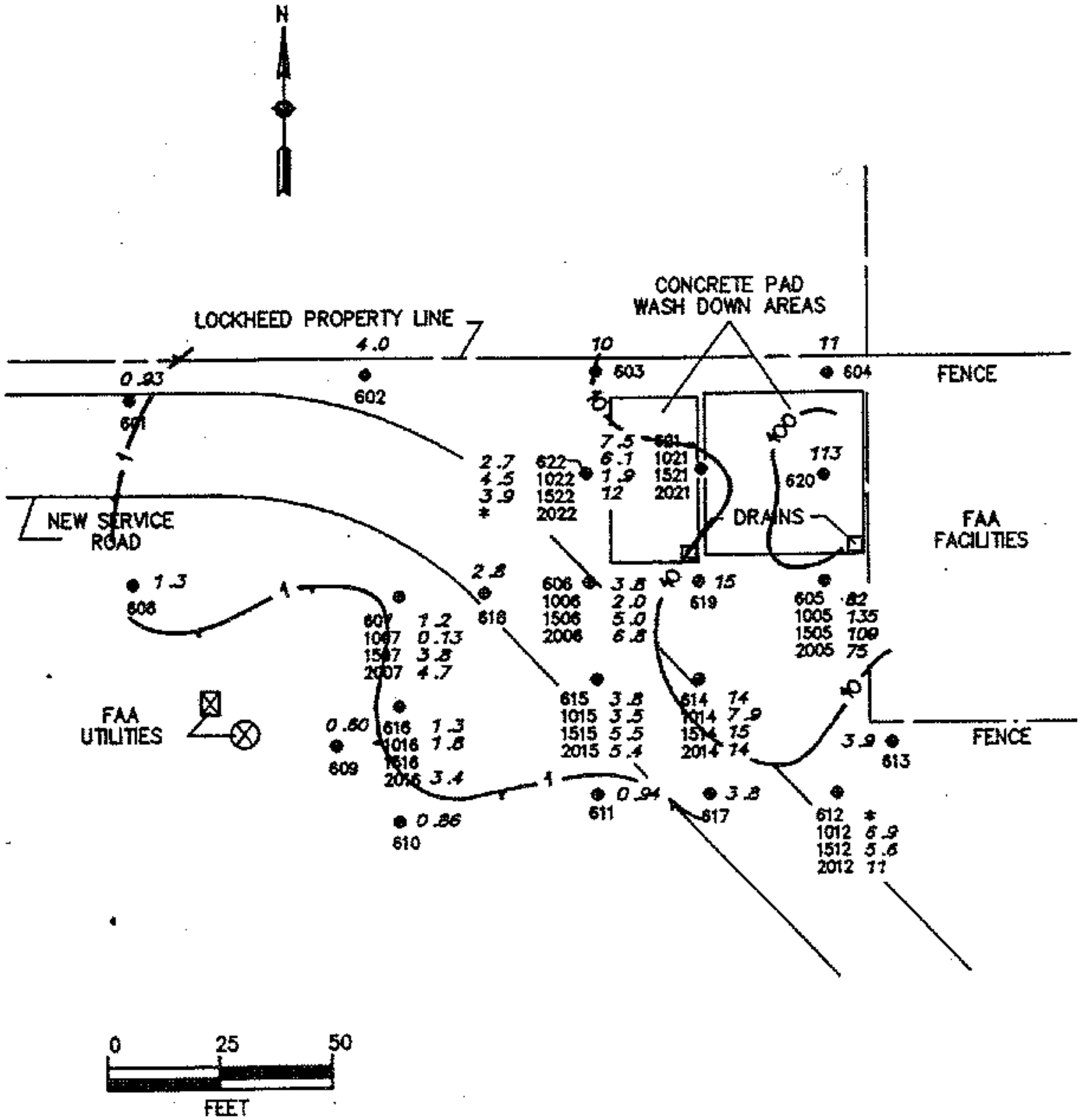


FIGURE 1. Sample Locations

TARGET ENVIRONMENTAL SERVICES, INC.

BURBANK-GLENDALE-PASADENA AIRPORT
BURBANK, CALIFORNIA

This map is integral to a written report and should be viewed in that context.



⊕ SOIL GAS SAMPLE LOCATION

* DATA NOT AVAILABLE

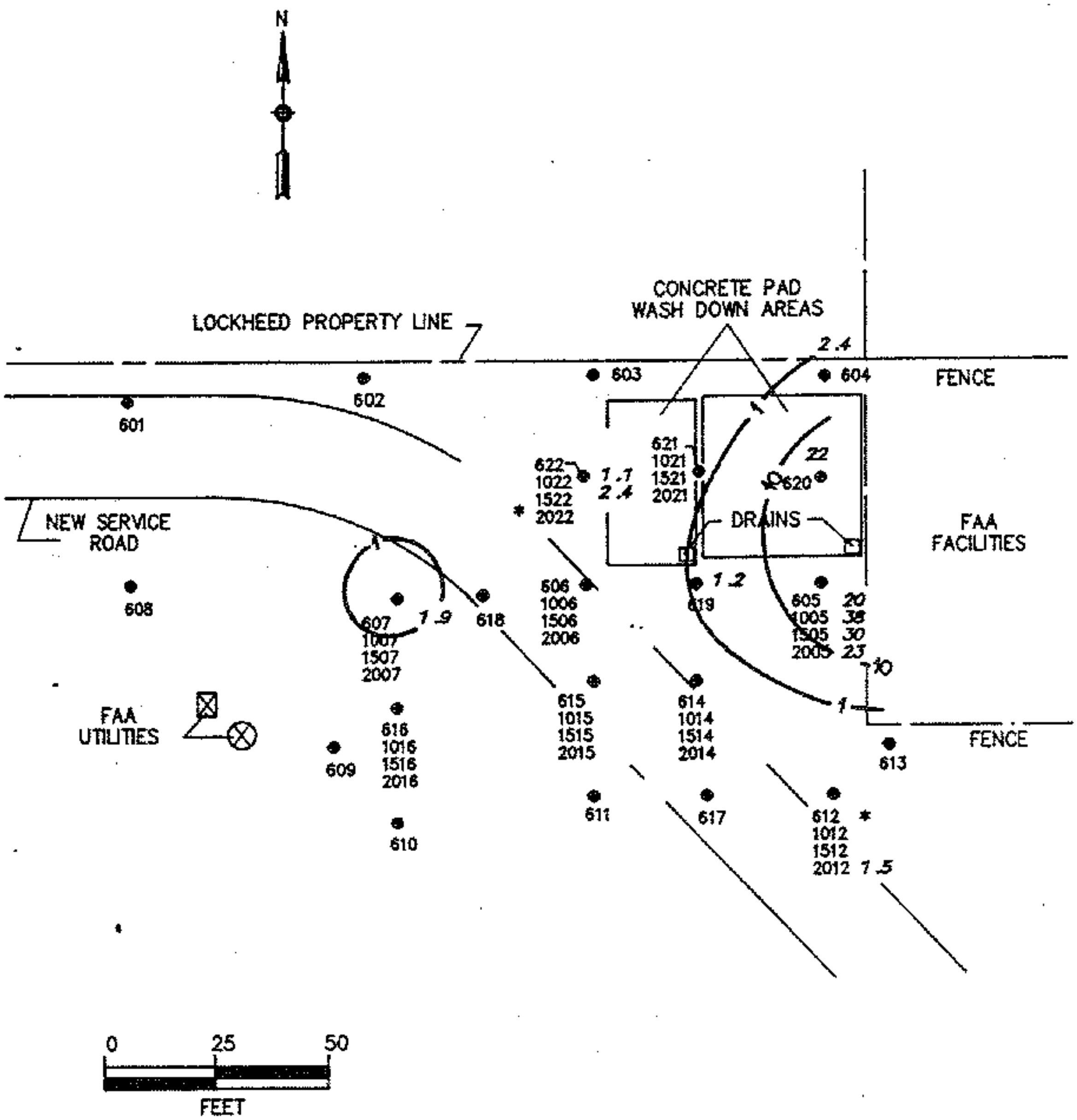
CONTOUR LINES RESPECT DATA OBTAINED AT THE 6' DEPTH.

TARGET ENVIRONMENTAL SERVICES, INC.

FIGURE 2. 1,1,1–trichloroethane (1,1,1–TCA) (µg/l)

This map is integral to a written report and should be viewed in that context.

BURBANK–GLENDALE–PASADENA AIRPORT
BURBANK, CALIFORNIA



● SOIL GAS SAMPLE LOCATION

* DATA NOT AVAILABLE

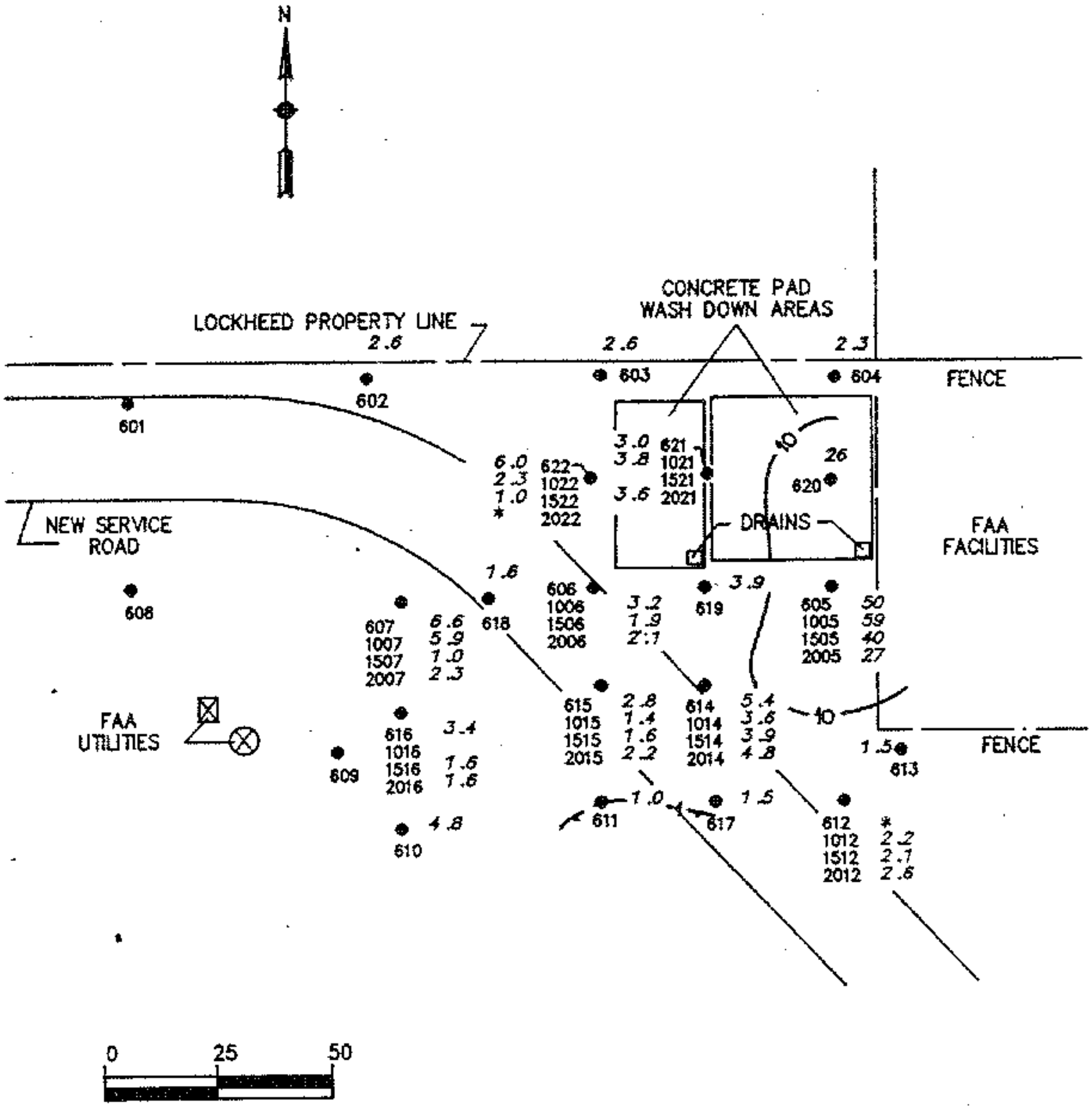
CONTOUR LINES RESPECT DATA OBTAINED AT THE 6' DEPTH.

FIGURE 3. trans-1,2-dichloroethene (t-1,2-DCE) (µg/l)

TARGET ENVIRONMENTAL SERVICES, INC.

BURBANK-GLENDALE-PASADENA AIRPORT
BURBANK, CALIFORNIA

This map is integral to a written report and should be viewed in that context.



● SOIL GAS SAMPLE LOCATION

* DATA NOT AVAILABLE

CONTOUR LINES RESPECT DATA OBTAINED AT THE 6' DEPTH.

FIGURE 4. Total FID Volatiles (calc'd $\mu g/l$)

TARGET ENVIRONMENTAL SERVICES, INC.

BURBANK–GLENDALE–PASADENA AIRPORT
BURBANK, CALIFORNIA

This map is integral to a written report and should be viewed in that context.

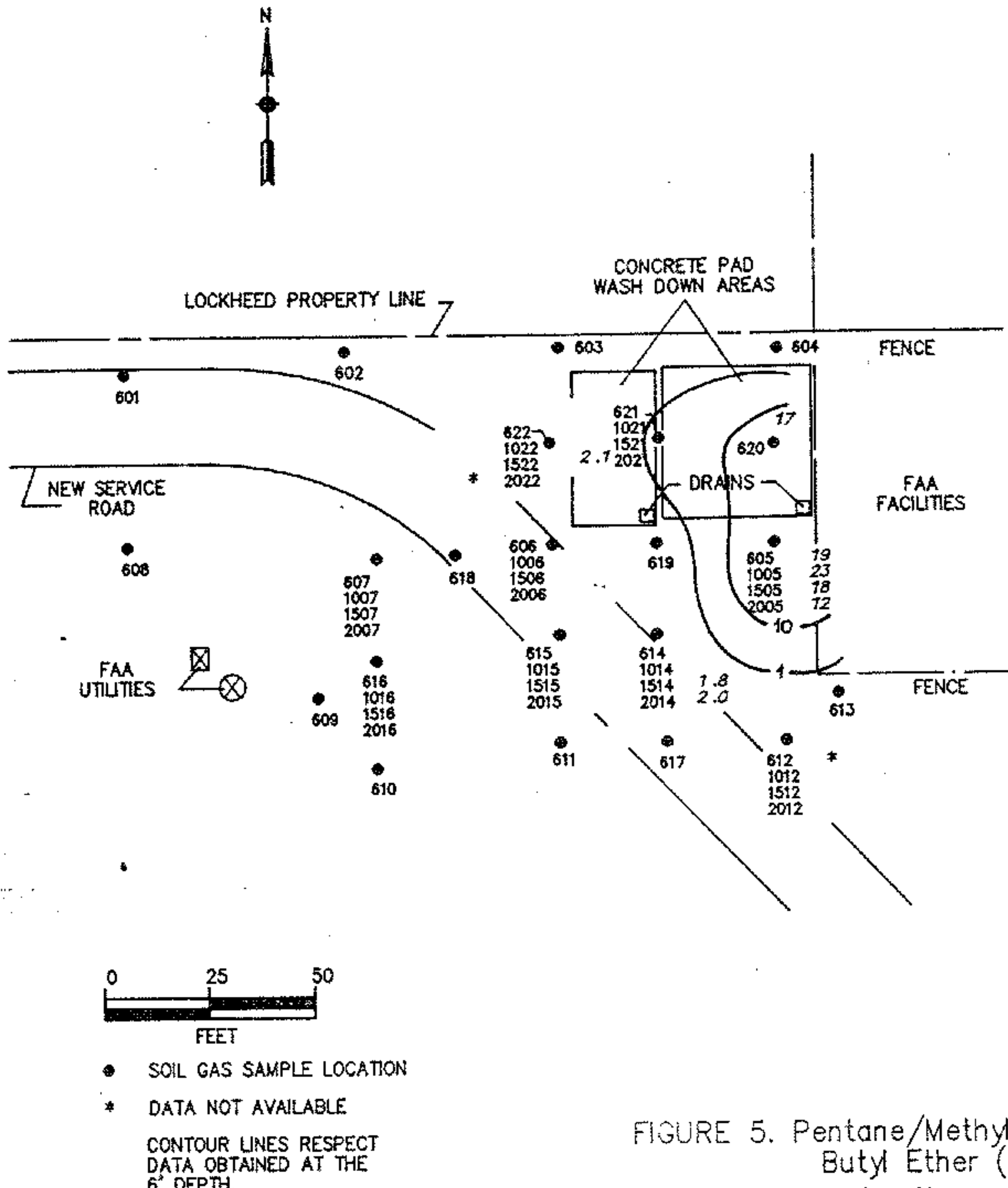


FIGURE 5. Pentane/Methyl Tertiary Butyl Ether (MTBE) ($\mu g/l$)

TARGET ENVIRONMENTAL SERVICES, INC.

BURBANK–GLENDALE–PASADENA AIRPORT
BURBANK, CALIFORNIA

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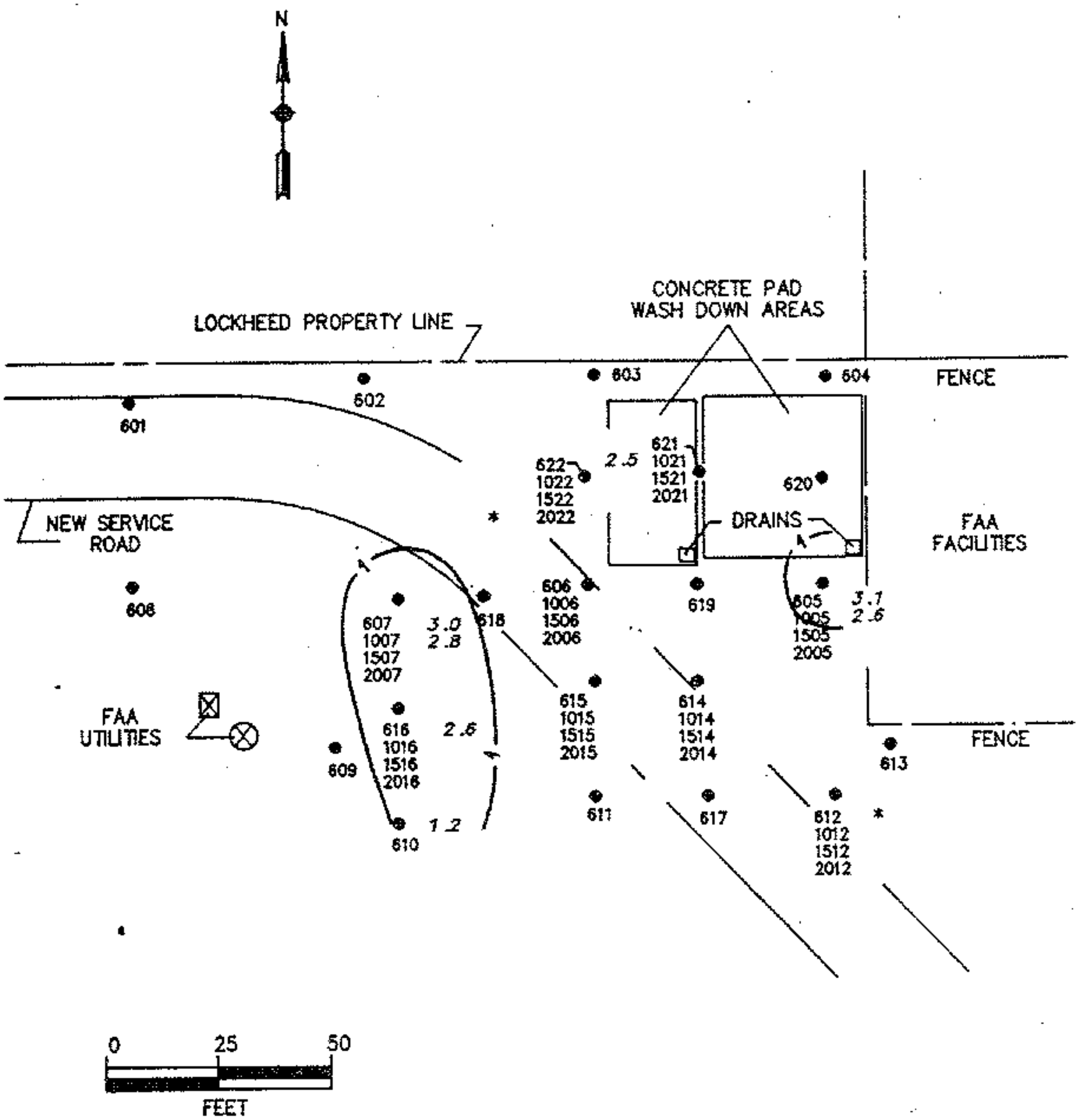


● SOIL GAS SAMPLE LOCATION

* DATA NOT AVAILABLE

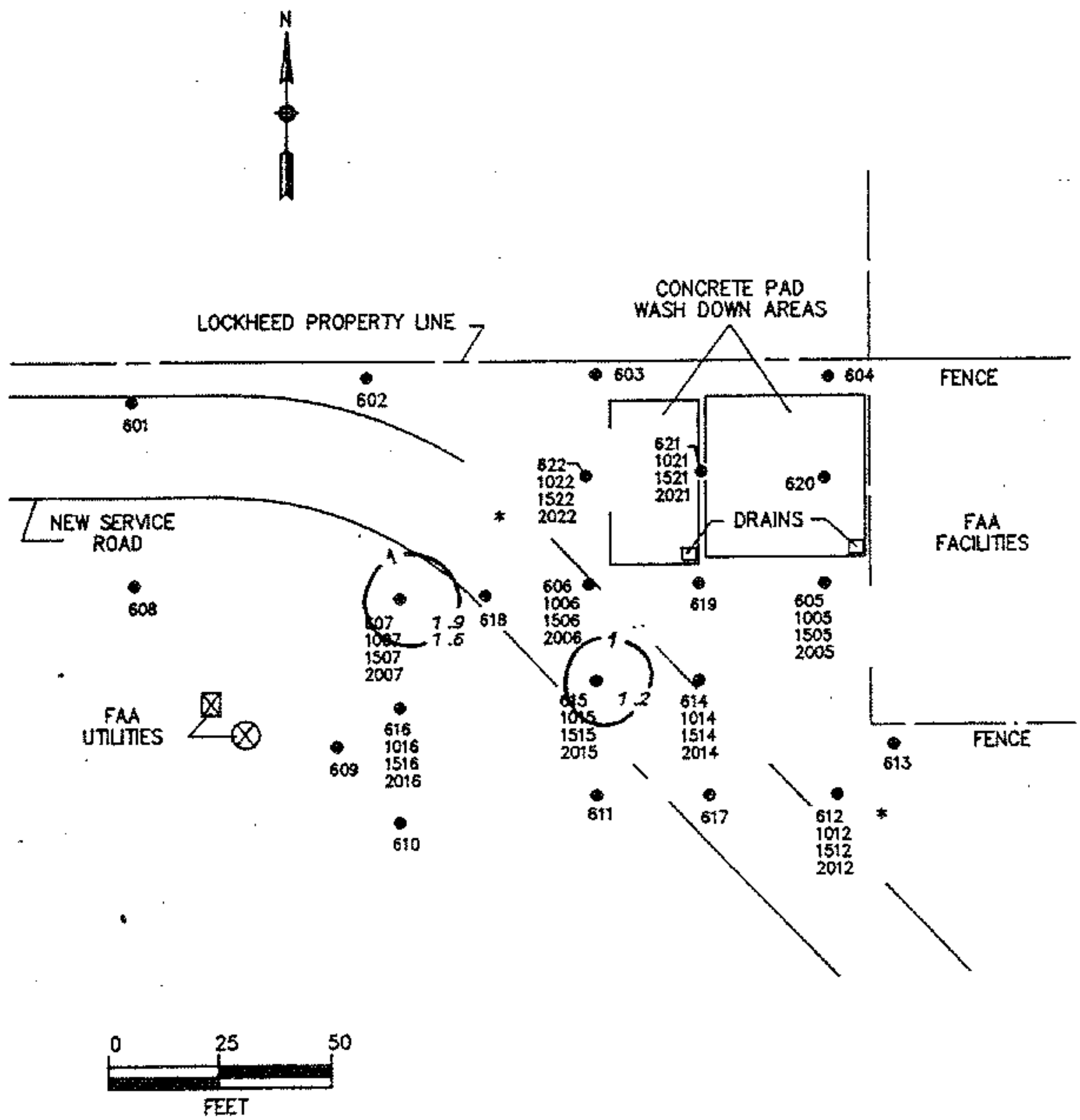
CONTOUR LINES RESPECT
DATA OBTAINED AT THE
6' DEPTH.

FIGURE 6. Xylenes (µg/l)

TARGET ENVIRONMENTAL SERVICES, INC.

BURBANK–GLENDALE–PASADENA AIRPORT
BURBANK, CALIFORNIA

This map is integral to a written report
and should be viewed in that context.



● SOIL GAS SAMPLE LOCATION

* DATA NOT AVAILABLE

CONTOUR LINES RESPECT
DATA OBTAINED AT THE
6' DEPTH.

FIGURE 7. Acetone (µg/l)

TARGET ENVIRONMENTAL SERVICES, INC.

This map is integral to a written report
and should be viewed in that context.

BURBANK–GLENDALE–PASADENA AIRPORT
BURBANK, CALIFORNIA

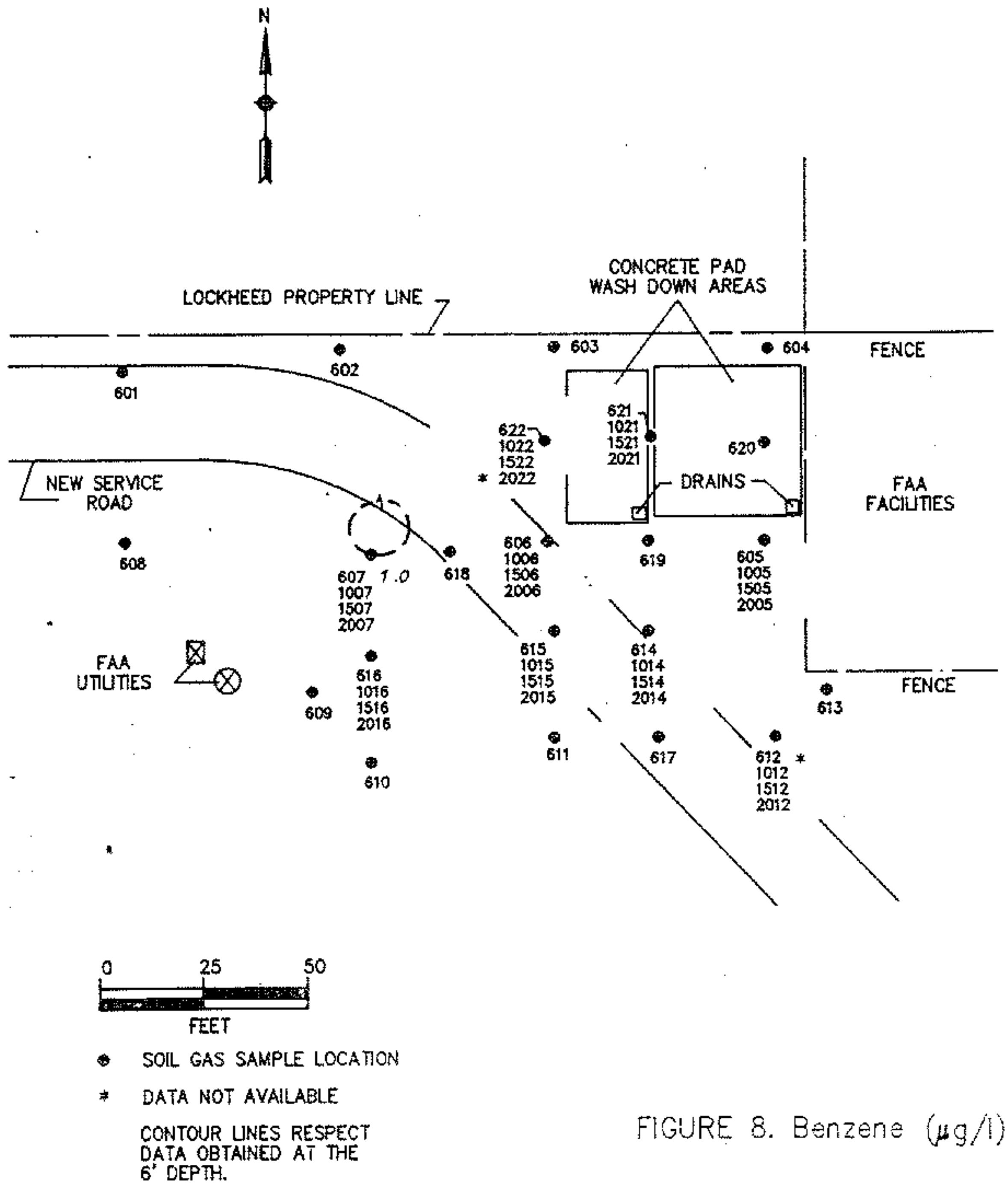


FIGURE 8. Benzene (µg/l)

TARGET ENVIRONMENTAL SERVICES, INC.

BURBANK–GLENDALE–PASADENA AIRPORT
BURBANK, CALIFORNIA

This map is integral to a written report and should be viewed in that context.